APRIL, 1924.

Vol. XLI. No. 152.

THE

BRISTOL MEDICO-CHIRURGICAL JOURNAL

PUBLISHED UNDER THE AUSPICES OF

THE BRISTOL MEDICO-CHIRURGICAL SOCIETY.

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The Bristol Medico-Chirurgical Journal

" Scire est nescire, nisi id me
Scire alius sciret."

APRIL, 1924.

THE EVOLUTIONARY HISTORY OF RENAL SURGERY AND OF TEMPORAL BONE SURGERY.

The Presidential Address, delivered on October 10th, 1923, at the opening of the Fifty-first Session of the Bristol Medico-Chirurgical Society.

BY

J. LACY FIRTH, M.D., M.S. Lond., F.R.C.S.,

Surgeon to the Bristol General Hospital.

PART II.

MY next subject is the rise and development of operations on the mastoid process of the temporal bone. The importance of such operations for the relief of inflammation is very great, for they save many lives, much suffering, and much hearing power. It seems strange, therefore, that until about 1873 this branch of surgery remained very imperfectly developed.

In all surgical history two epochs have to be borne in mind, separated by a world of difference in the opportunity they offered their workers of making progress. I mean, of

course, the epoch before and the epoch since the discovery of anæsthetics and antiseptics. We may compare these two periods to those before and after the dawn of Christianity in ethical history, and the middle years of the nineteenth century will for ever be memorable in human annals for those two great and beneficent discoveries.

It was in 1846 that Morton the dentist and Warren the surgeon, in America, first used ether as an anæsthetic. Within a year Simpson introduced chloroform. Liston performed an amputation through the thigh under ether at University College Hospital in 1847, and within eighteen months thousands of operations had been done under anæsthetics. Lister published his first work on antiseptics in 1867, but it was not until about 1880 that the antiseptic system of wound treatment became generally adopted. The dates 1846 and 1880 are those to be remembered when considering the history of mastoid or any other surgery.

In 1919 Sir Charles A. Ballance published a magnificent book on the *Surgery of the Temporal Bone*, and I have found the historical ground I wish to survey so well covered in that work that I have drawn largely from the excerpts he has taken from original papers by the pioneers of mastoid surgery. In addition, I am indebted to F. Whiting's book on *The Modern Mastoid Operation*, published in 1905, and to Politzer's *Geschichte der Ohrenheilkunde*, vol. i., published in 1907, and vol. ii. in 1913.

Until the middle of the nineteenth century aural surgery was in a very backward state in this country. It was largely in the hands of quacks.

As an illustration of this Sir Charles Ballance quotes the following story of Sir Robert Peel (b. 1788, d. 1850) and a notorious ear-quack named Curtis. The latter was summoned to attend Mr. Peel, the Secretary of State for the Home Department, who was suffering from a temporary deafness. One of Curtis's modes of practice, which he adopted in almost every

case, was to clear out the affected organ by means of injecting warm water through an immense syringe. This instrument, which was not unlike one of Read's garden syringes, he carried down with him to the residence of his illustrious patient. On his arrival he found Mr. Peel in the drawing-room with the Duke of Wellington, Sir Astley Cooper and Sir Henry Halford. He immediately commenced to syringe the ear. During the operation Mr. Peel became rather too inquisitive as to the nature of his complaint, its situation, and the *modus operandi* of the remedy. Curtis was in a very difficult position, but his natural shrewdness and imperturbable coolness made him equal to the occasion. "I saw," he said, "that I must stop this inconvenient questioning, so putting the point of the syringe by the side of the passage I gave him a dig and said, 'Mr. Peel, if you don't hold your tongue I shall certainly do you a mischief.' He was as dumb as an oyster afterwards."

SIMPLE OPENING OF THE MASTOID ANTRUM.

The first suggestion that the mastoid process should be artificially opened appears to have been made by Johannes Riolanus (1649). One of the passages in his writings which refers to the procedure is very curious. He describes the mastoid cells as being like the cells of a honeycomb, and then continues:—"Vesalius compared it to a large cave; on account of its being full of air, it happens when the air, which should always be still, is stirred up by the impact of a fresh air current, that the ears buzz continually. But how can we give exit to the air which is such a source of trouble? There is certainly no other way of doing this except trephining the mastoid process."

The opening suggested was to be a kind of air vent or noise vent for the relief of tinnitus aurium in cases of Eustachian obstruction, and this writer and others who followed, including Rolfinck, though they suggested making the opening, yet never themselves performed the operation.

Valsalva, 1740, and Heuermann, 1757, were the first surgeons to record the use of spontaneous openings in the mastoid process for the purpose of treating otorrhœa.

Each of them reported a case in which he syringed through such openings into the tympanum.

The first surgeon, however, to perform and definitely advocate opening the mastoid process for the evacuation of pus was the celebrated Jean Louis Petit (b. 1674, d. 1760). He recommended that abscesses in the mastoid diploë should be opened "from the very first day of their formation," and he taught that we should not "wait until they have destroyed the bone, for the patient is always in danger" (Ballance). He used a so-called "trepan exfoliatif," which bored a hole but did not remove a disc of bone. It is to be regretted that this most sound advice was not accepted by the profession for a century. He preached a gospel of reform which surgeons had not the sense to accept.

About sixteen years later a Prussian regimental surgeon, named Jasser, in 1776, unacquainted with Petit's writing, operated successfully on the mastoid of a soldier. The story of Jasser's case may be epitomised from the account given by Sir C. Ballance as follows:—

The original account is in a German book published in 1782.

A recruit came to the regiment of which Jasser was the surgeon, with hearing lost on the left side and bad on the right, and with offensive discharge from both ears. The colonel was present when the recruit was examined. He raised his stick saying that the stick was the proper instrument with which to restore the hearing and drive away the discharge, so to duty the recruit had to go. Several times in the next few weeks the man came to hospital with pain in the right ear. He was bled, purged, blistered and leeched without getting relief. At last an incision was made over the right mastoid. A little thin pus escaped. Later, no relief having been obtained, the mastoid wound was enlarged, a bare spot of bone felt, and on probing the probe entered the mastoid through a small hole. Jasser was rather alarmed and injected a medicinal concoction, the only thing handy. The nozzle of the syringe fitted the hole tightly. When the injection was made the

patient called out "Good God, something is running through my ear into my head." Some of the fluid came out of the right nostril. Jasser was startled. He repeated the injection. Much pus came from the meatus. Jasser asked the man how he felt. He replied, "God be thanked for ever, my earache is going!" He then slept for ten hours. The wound healed in three weeks with improved hearing.

The "Jasser Operation" was widely discussed, but apparently was not repeated for ten years, when it was performed by a surgeon named Fielitz. Whiting writes somewhat scathingly of Fielitz, as follows:—"He was possessed of the requisite fortitude to insure not only the performance of the operation, but, to judge by his subsequent report, endowed as well with the needful assurance to warrant the unequivocal success of any step which he might attempt, providing the publishing of the same were entrusted to him." He operated on five mastoids of three very deaf patients, only one of them having otorrhœa. All are reported to have recovered quickly with complete restoration of hearing. This result is incredible.

The true principles upon which the mastoid operation should be performed had been lost sight of, and instead the operation was resorted to as a cure for deafness. One or two more surgeons tried it with indifferent or bad results, including Kolpin, who operated on the celebrated Danish Court Physician, Johan Just von Berger, for deafness and tinnitus in 1791. The patient died, and was regarded by many as having died "a martyr to the operation of perforation of the mastoid." This misfortune appears to have checked the progress of mastoid surgery for years. As a matter of fact an autopsy on von Berger seemed to show that he died from meningitis secondary to the scalp and skull wound, and that the dura had not been injured by the operation.

So the Jasser operation after a series of failures died out.

Its practice had come to be based on false ideas, and mastoid surgery suffered eclipse. Its consideration, however, had served as a stimulus to anatomical and physiological research.

In 1838 J. E. Dezeimeris collected nine cases in which the operation of opening the mastoid had been performed, some of which have been mentioned above, and he defended the operation.

One turns in England with special interest to the opinions held by Wilde and Toynbee on this subject. Wilde, in his work on *Aural Surgery*, published in 1853, wrote: — "As the success attending this procedure must be very doubtful, and the hazard very great, it is never resorted to in the present day." He recommends making the famous incision associated with his name (the Wilde incision), "should the mastoid process, or the parts covering it, become engaged, and the methods already recommended fail to give relief."

Toynbee thought it would be right to perforate the mastoid in cases where pent-up matter was causing "such urgent and serious symptoms as are likely, if not relieved, to terminate in death." He had never performed the operation, but would not scruple to do so in the circumstances mentioned. In 1860 a French surgeon, Forget, advocated the operation. Then von Tröltsch, in 1861, showed that he appreciated the true surgical principles on which the mastoid should be opened. He pointed out the various dangers which arise from delay in evacuating pus from the bone, and during the next few years cases were from time to time operated on. In 1868 Jacoby described the indications for the operation, and included among them obstinate otorrhœa without signs of mastoid implication. His method, and that of all other surgeons, however, was merely to make a hole with a drill.

THE SCHWARTZE OPERATION.

Now, at long last, we come to Schwartze. According to Buck there had been only thirty-five such operations recorded up to 1873, when Schwartze began to publish his work on the subject. Sir C. Ballance writes:—"It is to the scientific insight and work of Schwartze and his assistant, A. Eysell, that we are mainly indebted for the first systematic account of the operation as a scientific procedure to be performed on a definite plan and under definite conditions."

Schwartze laid stress on irrigating through the mastoid opening and antrum, into the tympanum and out through the meatus, a step we do not now lay stress upon. We can say, with full justification, that the ordinary mastoid operation of to-day, as performed in acute cases and as a first step in more complete operations, is that of Schwartze. The operation as usually done is rather more extensive than that originally described, and has been modified slightly in various ways, but it remains essentially Schwartze's. One must admit, however, in fairness, that in all probability Jacoby and von Tröltsch, both of whom were working at the subject about the same time, had a share "in defining the plan of operation which came to be known as Schwartze's" (Ballance).

THE RADICAL MASTOID OPERATION.

The next advances made in the surgery of this region, were those which have led to the operation now known as the Radical Mastoid Operation.

It was soon found that the operation of Schwartze, successful though it was in the treatment of acute mastoid inflammation, was not usually successful when tried for the cure of obstinate chronic middle-ear suppuration with more or less foul discharge. This was due to the fact that in those cases there existed with the mastoid disease

caries of other parts, such as the bony walls of the tympanum, the ossicles and the osseous meatus. It was the attempt to treat these obstinate cases effectively which led gradually to the evolution of the radical operation, in which not only the mastoid antrum and cells are freely laid open, but also the whole tympanic cavity is opened up and cleared of its contents.

It was the general surgeon Küster who gave the first impetus to this extension of the operation in 1889, when he recommended that the removal of the posterior wall of the osseous meatus should be added to the procedures of Schwartze. That was the first step in the evolution of the radical operation. In the same year Von Bergmann extended the operation still further by removing the outer attic wall. Küster's principle was, in his own words, as quoted by Ballance, "to open up the bone freely so that it can be readily scrutinised, to clear away all disease and thus so fully to expose the source of suppuration that the pus is nowhere checked in its outflow." Next came Stacke and Zaufal, who planned systematic methods of laying open into one easily accessible cavity, for drainage and dressing, of the antrum, attic and tympanum. Zaufal worked from behind forwards; Stacke opened the attic first and then worked backwards into the antrum. The Zaufal method is that most commonly used. I have myself never used the Stacke mode of approach. Stacke was the first to introduce the plastic procedure in which the posterior wall of the membranous meatus is divided to form one or more flaps, and the flap or flaps displaced backwards into the bony cavities. This prevents cicatricial narrowing of the meatus, and gives a starting point for the spread of epidermis over the raw surfaces of the bony cavity which has been made. Many modifications of this plastic part of the operation have been employed.

When I first began to perform radical mastoid operations I tried the technique described by Sir Charles Ballance in 1900. The mastoid incision was re-opened some time after the first operation, under an anæsthetic, Thiersch's skin grafts were applied to cover the walls of the bony cavity and the grafts covered with gold leaf as a protective. I showed cases at this Society in which these methods had yielded gratifying results. But I soon came to use simpler methods of performing the plastic part of the operation and to omit skin grafting. I have still an open mind on the question of applying skin grafts, but I do not like to subject my patients to two operations if as good an end result can be obtained with one by the exercise of a little patience. Soon after I had taken charge of the ear department at the Bristol General Hospital I paid a holiday visit to Politzer's Clinic in Vienna. A rather curious incident was that one day Mr. C. A. Ballance appeared and operated on a patient by his method, with Politzer and his assistants looking on as interested spectators. I must admit I could not get a good view owing to the number of students present. One student standing near me, a foreigner, seemed much impressed with the coolness and imperturbability of the operator, which he considered was characteristically English. The post-graduate instruction in the clinic was in my opinion excellent. For instance, a class was formed for practising aural operations of the cadaver. Each student performed mastoid operations and could later obtain the temporal bone of the head on which he had operated. I brought one home with me, but I feel sure it was not the one I had operated on myself. For one reason the operation had been crudely performed, more crudely than I believed I had done it. The supply of cadavers for these operative classes seemed limitless at the Allgemeines Krankenhaus.

I have no recollection of ever seeing a mastoid operation

done at University College Hospital from November, 1888, to November, 1889. In 1890, when I was House Surgeon at the Royal Berkshire Hospital, Reading, I saw Wilde's incision made for mastoiditis. To-day we should all agree with Whiting's statement that "As a general proposition we may affirm that whenever Wilde's incision is indicated a mastoid operation is imperative." Also we should agree with the same writer's remark that "Probably no surgical measure which had its foundation upon such frail anatomical and surgical supports ever enjoyed the distinction of a vogue so popular and prolonged as 'Wilde's Incision.'"

THE OPERATION FOR SINUS THROMBOSIS.

The last extension of temporal bone surgery I wish to notice is that for dealing with infective lateral sinus thrombosis.

It is rather curious to find that infective sinus thrombosis of otitic origin was not recognised until long after otitic brain abscess and meningitis. The first observations on the subject are those of Hooper in 1826, and of Abercrombie in 1835. In 1840 Bruce read a paper in Liverpool on the subject.

We turn again with interest to Wilde's book on *Aural Surgery*, published in 1853. He wrote as follows:—"These cerebral symptoms do not, however, in every case appear to be the immediate cause of death. I remember two cases in particular and I suppose they are the types of many others of the same class, where the lungs became affected in the later stage of the disease, and in which the thoracic affection seemed to be the immediate cause of dissolution . . . In such cases I am inclined to think that the disease of the parts of the bone extends to the lateral sinus and induces purulent infection of the venous system, which eventuates in disease of the lung."

Lebert in 1856 gave the first accurate description of this complication based on his own and older observations. He considered the prognosis absolutely unfavourable.

With reference to the treatment of the condition Sir C. Ballance writes as follows :—" The principle on which it is based was first successfully applied in the treatment of venous infections arising in other parts of the body. Kraussold, for example, in 1878, in a case of suppurating thrombosis of the femoral vein, following amputation through the thigh, opened the ligatured end of the vein, cleared out the clot, tied the femoral vein at the level of Poupart's ligament and excised 2 to 3 cm. of the intervening portion of the vein. The patient recovered. . . . He suggested that a similar operation might be required for the internal jugular vein, or any large vein, for the cure of sepsis following operations. He gives Lee the credit of having been the first to tie a vein to arrest septic infection. Lee, in a case of septic infection spreading from the hand, divided the cephalic vein subcutaneously and secured the ends by acupressure."

But to Zaufal belongs the credit of having first suggested that lateral sinus thrombosis of otitic origin should be treated by ligature of the jugular vein and by opening the sinus. Zaufal's words as rendered in Sir C. Ballance's work, are the following :—" It is not the thrombus, but the breaking down of the thrombus which causes fatality. Unfortunately, we cannot diagnose infective sinus thrombosis until after rigors and other signs, which indicate that infective particles have been carried into the blood stream, have appeared. Can we get rid of such a collection ? The case I have brought forward, in which the vena jugularis on the cardiac side was occluded by uninfected clot, is like a finger-post pointing the way. In such cases I think not only the mastoid operation but ligature of the jugular vein and sometimes opening

up part of the sinus itself would be useful." This was written in 1880.

In 1884 Zaufal recommended that bone should be chiselled away and the sinus opened so that infected material within it might be cleared out by antiseptic injections. This can only be done safely if the jugular vein is blocked at the foramen jugulare or lower down, so that fluid injected cannot reach the innominate vein and the right side of the heart. If this is not the case, the jugular vein must be tied below the diseased part, and " so the highway for infective particles into the blood stream occluded. If the jugular vein above the ligature contains infective clot it must be opened also and irrigated."

Voss, writing in 1910, remarks that German aural surgeons spent nearly ten years in academic discussion of Zaufal's recommendations without practising them, and then an English surgeon, unacquainted with those recommendations, was the first to convert similar ideas into action. The surgeon was Sir Arbuthnot Lane, whose first operation of the kind was performed in 1888, and the case described at the Clinical Society in April, 1880. In May, 1889, Sir C. Ballance, unaware of the work of Zaufal or of Lane, performed a similar operation, and published his first paper on the subject in March, 1890. Eleven years later, in 1901, Viereck published the results of 170 such operations, of which 62 were considered to have been too late to have any chance of success. Of the remaining 108 cases 89 were successful. Ballance was the first to advise dividing the vein between two ligatures, " so that the upper septic portion of the jugular may be completely isolated from the lower, which remains an integral portion of the vascular mechanism."

When Sir Arbuthnot Lane ligatured the jugular vein for the first time in history for the treatment of lateral sinus

thrombosis, he is said to have been influenced to do so by a suggestion of Sir Victor Horsley's. It is interesting, therefore, to consider Horsley's contribution to the subject.

In 1886, two years before Lane operated, Horsley read a paper at a meeting of the Clinical Society of London on a "Case of Suppuration in the Mastoid Cells," and in that paper suggested dividing the jugular vein to prevent septic emboli passing to the thoracic viscera. Horsley's case was interesting, too, as a record of recovery after such an embolism had occurred.

I propose, therefore, to read to you an epitome of Horsley's records of the case, and to give you verbatim some of the remarks made on the subject of ligaturing the jugular vein.

The patient was a young woman of seventeen years of age, admitted to University College Hospital after being ill for a fortnight. She had profuse discharge from her right ear, and swelling and redness over the mastoid process. She had two operations on the mastoid, the bone being freely laid open and much foul pus evacuated. Ten days after admission, and a few days after the second operation, she was seized with sudden severe precordial pain and great dyspnœa. A temporary bruit was heard at the apex of the heart. In twenty-five minutes the pain shifted to a position beneath the left shoulder-blade. Next day there was a patch of dullness and tubular breathing opposite the lower angle of the left scapula. The patient recovered.

The lateral sinus, I must point out, was not treated, but was assumed by Horsley to have been the source of the pulmonary embolus.

Horsley comments as follows on the case :—

"There also, of course, comes in the question how far we can limit the extent of the thrombosis of the sinus if it has once begun. From consideration of the dates given in the foregoing report it will, I think, be conceded that the serious state of the patient (stupor, temperature 106°, etc.), which led me to so freely open up the mastoid and

tympanic cavities, was caused by such thrombosis having commenced. This being so, it is clear that the thorough disinfection and drainage of the inflamed bone checked the osteitis and consequently the progress of the thrombosis caused thereby.

"Supposing this to be always possible, there still remains the problem how to prevent embolism of the thoracic viscera. . . . The solution of this problem is a simple matter enough, looking at it from the merely mechanical point of view, resolving itself, of course, into the really not very serious operation of ligature of the jugular vein in the middle of the neck. . . . At the first blush it will seem, perhaps, to be a very crude proposal, but a little consideration of the facts which led me to suggest it will, I think, alter this adverse criticism."

Horsley then discusses the question of the spread of the thrombosis backwards towards the torcular, and concludes that this would not be more likely to occur after ligature than before. It is noticeable that the idea of opening up the lateral sinus and clearing out the septic clot did not enter Horsley's mind, and in this and other respects his suggestions for the treatment of sinus thrombosis were less complete than the earlier suggestions of Zaufal recorded above.[1]

Now, gentlemen, my excursion into the field of Surgical History is finished. You will have noted that the discoveries and inventions to which I have alluded were not made by men of transcendent genius, not by men of the calibre of Leonardo da Vinci, Newton, Pasteur or Lister, but at least

[1] A series of lantern illustrations of the mastoid operation and its evolution were next shown and the following portraits: Jean Louis Petit (b. 1674, d. 1750); E. Siegle (b. 1833, d. 1900); Heinrich Adolf Rinne (b. 1819, d. 1868); Joseph Toynbee (b. 1815, d. 1866); Sir William Wilde (b. 1815, d. 1876); Hermann Schwartze (b. 1837, d. 1910); Emil Zaufal (b. 1837, d. 1910); Ménière d'Angers (b. 1799, d. 1862); Sir Victor Horsley (b. 1857, d. 1916).

they were made by men who worked well and made lasting contributions to our science and art. By men, therefore, whose deeds are worthy of our admiration and emulation. Many of us may not be so well equipped by nature as they were to make notable contributions to science, but each one of us can do something. As an encouragement to effort in this direction, let me read you two brief extracts from the writings of men great in literary achievement. First an exhortation taken from Carlyle's *Sartor Resartus*, where it is written :—

"Produce! Produce! Were it but the pitifullest infinitesimal fraction of a Product, produce it, in God's name! 'Tis the utmost thou hast in thee; out with it, then. Up, up! Whatsoever thy hand findeth to do, do it with thy whole might. Work while it is called to-day."

My second quotation is from Kipling's poem, "The Glory of the Garden." The poem begins, you will remember, with the words, "Our England is a Garden," but let us consider it as though the opening words were, Our Science is a garden, a garden which needs constant work to maintain its glory. I must only quote two verses, but the whole poem would well bear the application I am suggesting :—

"There 's not a pair of legs so thin, there 's not a head so thick.
There 's not a hand so weak and white, nor yet a heart so sick,
But it can find some needful job that 's crying to be done,
For the Glory of the Garden glorifieth everyone.

"Then seek your job with thankfulness and work till further orders,
If it 's only netting strawberries or killing slugs on borders;
And when your back stops aching and your hands begin to harden,
You will find yourself a partner in the Glory of the Garden."

Lastly, may I appeal to you, members of this Society, to cultivate during the ensuing session, with special sympathy and special zeal, one flower-bed in that Garden of Science, that of the Bristol Medico-Chirurgical Society.

CANCER OF THE BREAST.*

BY

A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S.,

Surgeon to the Bristol Royal Infirmary.

YEAR after year the Registrar-General's commentary on the mortality statistics for England and Wales contains the melancholy note, on the death rate from cancer, that this is the highest yet recorded. All forms of cancer are increasing. In this country the increase in the death rate from malignant disease is about 2 per cent. per year; that is to say, it rose from 800 deaths per million living to 1,000 in twelve years. In 1920 there were 43,687 deaths from all forms of cancer. As the wonderful statistics collected by Hoffman[1] show, this cannot be accounted for by the rise in the average age at death, nor by improvements in diagnosis.

Cancer of the female breast is no exception to the general tendency. In 1920 there were 4,488 deaths from this cause in women; that is, 19 per cent. of cancer deaths in the female sex are due to cancer of the breast. Of women over 35 about 7.5 per cent. will get cancer, and in 1.5 per cent. it will affect the breast. It is not necessary to say more to show that the subject is one of great importance both to the profession and the public.

How does Cancer of the Breast arise?—It is not easy to establish an exact standard as to what constitutes a normal human mammary gland in histological section. Breasts which we have no reason to suspect of disease show a good deal of variation. But in the main, in young women with healthy breasts, both the secreting acini and the ducts show

* Read at a Meeting of the Bristol Medico-Chirurgical Society on February 13th, 1924.

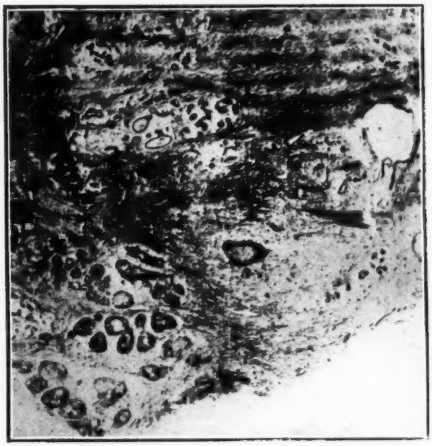

FIGURE 1.

Shows normal ducts, lined by a single layer of epithelium, in the upper half of the section, and ducts showing proemial changes in the lower half. At the bottom left hand corner is the focus of cancer. (Low power.)

FIGURE 2.

(Same section, high power.) Ducts showing hyperplasia of epithelium, i.e., proemial breast.

a single lining layer of epithelium, with a well-marked basement membrane. Even the virgin mammary gland has a certain scanty secretion from the acini, which is reabsorbed in the ducts. The larger ducts at the nipple are plugged with epithelial debris.

Very commonly one finds a few ducts showing some overgrowth of the flattened cubical epithelium. This may become two or three layers thick, and so more or less completely block the lumen; or stalked outgrowths, like seaweed in a pool, may distend the duct. Naturally, if a large duct is blocked, the secretion, which very likely under these circumstances is excessive and perhaps also badly absorbed, distends the smaller channels which drain into the duct, and they become tortuous and form cysts, with, or more often without, a stalked papillomatous growth inside them. Under certain circumstances the hyperplasia or overgrowth of the duct epithelium spreads widely along the ducts; under other circumstances it bursts through the basement membrane and runs riot in the tissues outside, especially taking advantage of the lines of least resistance presented by the lymphatic vessels. Thus it has become a cancer. The fibrous-tissue reaction of the mammary gland may be normal, in which case we get a scirrhus; or excessive, presenting us with the variety called atrophic scirrhus; or the cells may overwhelm the fibrous-tissue reaction and produce the encephaloid type of cancer.

These changes are well shown in the section figured 1. One sees normal ducts and acini; ducts with some hyperplasia of the lining epithelium; ducts packed with cells that look like, and probably are, cancer cells; and a patch where the cancer cells have definitely raided the tissue after forcing a way through the basement membrane. This slide, then, shows a very early carcinoma of the breast, supervening on the chronic changes we have just described.

Modern pathologists such as Sir Lenthal Cheatle[2] in this country and Ewing[3] in America therefore describe two separate conditions as occurring in the breast, which in times past would both have been included under the title of chronic interstitial mastitis. One affects the epithelium of the ducts, and it may be the secreting acini also; to this type Cheatle gives the name of the "proemial breast," *i.e.* he regards it as a definitely pre-cancerous condition. In the other type, not so common, there is a small round-celled infiltration of the gland around the acini and ducts. This is a genuine mastitis. Most cancers of the breast, not all, therefore arise in the epithelium of the ducts, not of the acini. The disease associated with the bloody discharge from the nipple, which has of long time been known as a duct-cancer, is only a somewhat uncommon special case of cancer arising in a duct.

Thus it becomes important to us to discover why the proemial breast occurs, and how it may be recognised and treated.

The causation is obscure. According to Cheatle, an irritant gets in through the nipple ducts. In the more extreme cases of chronic intestinal stasis the breasts are usually full of the little shotty nodules which characterise the proemial breast, and Sir Arbuthnot Lane thinks an intestinal toxin is responsible. Women and girls with delayed menstruation and other signs of insufficient ovarian internal secretion may frequently show the same.

The proemial breast is seen in women from 25 to 45. In the earlier stages it may be very painful, especially at the menstrual periods. Some reddish or definitely bloody discharge can be pressed out from the nipple, being derived from the little seaweed-like growths of epithelium inside some of the ducts; this sign, however, is often absent. The breast feels "nobbly"; that is to say, there may be nothing

one can definitely call a lump, but it is firm and irregular, feeling as if one had thrown a thick cloth over a pile of small shot, and was feeling the shot through the cloth. There may, of course, be little hard lumps also, probably cysts. Often a particular quadrant of the breast is alone affected. Enlarged glands may be felt in the axilla; this sign by no means proves the presence of cancer.

The treatment of this very common condition is not at all satisfactory. Excision of every proemial breast one sees is too drastic, but milder measures are not particularly effectual. It helps to support the gland with a bandage. One may prescribe Elixir Polyglandin or some other endocrine preparation, on the theory that the internal secretions, and notably that of the ovary, are at fault. This seems to do good in some cases. If there is evidence of intestinal stasis Liq. Paraffin is indicated. I have been accustomed to prescribe a blistering plaster for the painful types of this ailment.

Recently X-rays have been recommended.

In patients with this condition over 40 years of age a very close watch must be kept, and at frequent intervals, for the possible development of a definite lump such as can be felt with the flat hand or finger tips. Striking a rough average, out of 20 patients in whom this has occurred, 11 will have developed a cancer, 8 a cyst, and 1 a firm mass composed mostly of fibrous tissue, which sometimes contains in the centre a small collection of pus or liquefied epithelial debris. When a proemial breast shows a definite lump in it the whole breast tissue ought to be removed, and not only the lump. We shall return to this later.

Ætiology of Cancer of the Breast.—In my experience, both of hospital cases and private practice, an unduly large proportion of women suffering from mammary carcinoma are sterile; either they are spinsters, or being married they have never borne children.

In 1913 the Registrar-General analysed the figures for women dying of this disease, and corrected them to the number of each class living at that age. He showed that the mortality from scirrhus of the breast is 45 per cent. higher in the unmarried than in the married. When we remember that a considerable number who would appear amongst the married are nulliparous, it becomes clear that parous women enjoy a quite important advantage over those who have borne no children in respect of immunity from cancer of the breast. But, further, it is probable that the decisive factor is not child-bearing but suckling, and it is too true that many mothers either cannot or will not suckle their offspring. It is noteworthy that in my own records there are as many as 48 private patients as against 56 hospital cases. In the case of *e.g.* appendicitis the proportion is 1—3. It may be, therefore, that cancer of the breast is commoner in women of the better classes, and it is notorious that whilst probably 95 per cent. of the hospital class suckle their children for the full time, well-to-do mothers frequently do not.

Even in women with cancer of the breast who have borne children and suckled them I have been impressed by the frequency with which one is told that the affected breast had not been used for nursing, for some reason.

In Japan the death rate from cancer of the stomach, and also from cancer of the uterus, is about the same as in this country. But the incidence of scirrhus mammæ is only one-tenth of the British figure. Here 18.6 per cent. of cancer deaths are from disease affecting the breast; in Japan only 1.8 per cent. Why? The readiest reason is that in that country far more women have children, and they usually suckle them for three years.

We cannot explain exactly why non-functioning makes the gland more liable to dangerous changes. It is easy to

understand that the flow of milk will wash out any loose cells that may be forming on the walls of the ducts. Perhaps this may have some influence.

Many doctors, and almost the whole of the laity, are firmly convinced that cancer runs in families. The figures quoted by Hoffman after Pearson seem to establish the contrary. Cancer is such a common disease, that it may be mathematically proved that even if there is no such thing as an inherited tendency, we should still see multiple cases in a few families.

Table showing probability of multiple cancer cases in groups of persons, without any familial tendency.

Number of cancer deaths in family.	Per 100 families of six persons (3 m., 3 f.)
None.	47
One.	38
Two.	13
Three.	2

Now a doctor who acts as family physician to say 500 families of average size, and who saw two cancer deaths in each of 65 of them and three others in each of ten families, would probably be firmly convinced that the theory of heredity was true, but he would be wrong.

Put to the same rigid test, the theory of cancer houses must be relegated to the limbo of the unproven. So, too, the theory that cancer is contagious. These facts should be better known. They would relieve the minds of thousands of the relatives of victims of carcinoma.

It has been suggested that repeated injury to the breast by metal supports in corsets may cause cancer, and this is not impossible. But if it were a frequent cause, we should expect the usual site of the growth to be in the lower quadrant

As a matter of fact, the upper quadrant is most frequently affected.

The Diagnosis of Scirrhous Carcinoma of the Breast.—We shall barely mention the signs which everybody knows, and devote our attention particularly to the doubtful and difficult cases.

Unfortunately, any lump in the breast of a woman over 35 is more likely to be malignant than innocent. There are, however, some innocent lumps in the breast which occasionally enable us to rejoice the heart of a patient the day after she has had her operation by telling her good news. These are: cysts, fibro-adenoma, localised mastitis.

But a preliminary question sometimes arises: is there a lump at all? To determine this, the examination must be made with the flat hand and fingers, the latter moving as if playing the piano; we must not pinch up portions of the gland. The "nobbly" breast in which there are no definite lumps as large as a pea, but a universal shotty feeling, may be let off with a caution—a warning that it needs careful watching in the future. Soft wormlike masses beneath the nipple, out of which some secretion can be expressed, are innocent.

A cyst of the breast is much harder than cysts usually are elsewhere. If fluctuation can be got the diagnosis is clear, but doubt often arises. It ought to be operated on. Needling is dangerous. I have seen cancer and cyst associated.

Fibro-adenoma and its varieties (cystadenoma, etc.) is oftener diagnosed than seen. After 35 it is distinctly uncommon. The special feature about it is that it is very mobile within the breast, and can be chased all around with the finger-tip. It has a definite rounded outline.

Localised mastitis forming a definite lump is not so hard as cancer, but can seldom be recognised with confidence.

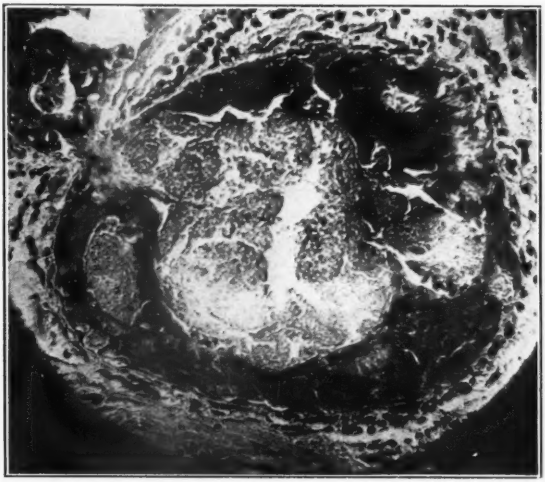

FIGURE 3.

(Same section, high power. From lower left corner.) Carcinoma spreading along duct, but not yet bursting out. Lumen filled with debris.

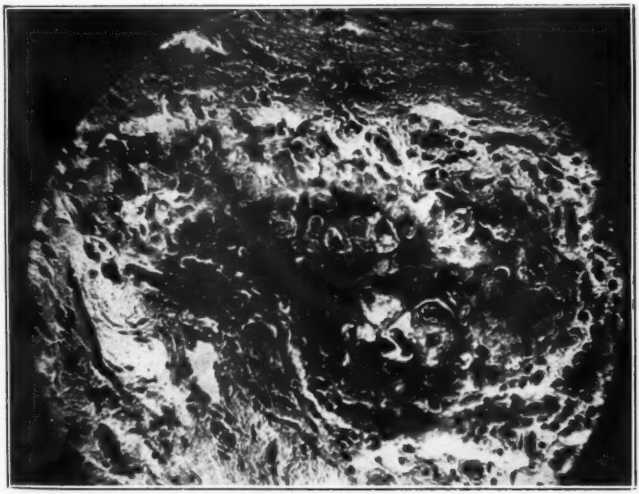

FIGURE 4.

(Same section, high power. From lower left corner.) The only typical patch of carcinoma in the breast. Shows cancer cells invading surrounding tissues.

The hall-marks of scirrhus are all dependent on the firmness of the fibrous tissue within it, which has a tendency to contract. Therefore the lump is stony-hard ; the breast may look a trifle smaller than the other, or it may sit a little higher (if the growth is above the nipple). The skin may show a little dimpling. If this is not visible at once, it may be brought out by pushing the skin over the lump, but it is then less reliable. The nipple may show a trifling deviation of its axis towards the lump. At a later stage the nipple is retracted. Many other signs will appear at a late stage, which need not be discussed.

If any of the above hall-mark signs are present, the case definitely is one of scirrhus. Glands in the axilla do not help us in diagnosis, though very important for prognosis. But if none of the above signs are present we must by no means conclude that there is no cancer. There is a large residue of cases in which it is impossible to say with any confidence what the nature of the lump is.

It cannot be too often insisted that absence of pain, or absence of wasting, is of no value whatever in negativing a diagnosis of cancer of the breast. Both are quite late signs.

There are some special cases in which there may be doubt as to what is the matter with the patient. The lump may be very far out, or there may be no lump in the breast at all, but either glands in the axilla, or a bloody discharge from the nipple, or nipple retraction. I have seen a few examples of each of these conditions.

A very far out lump, generally in the direction of the axilla, is usually a cancer if it is stony hard, arising in an aberrant nodule of mammary gland.

If there is a mass of hard glands in the axilla presenting the characters of cancer, but no lump can be found in the breast or elsewhere, the breast is nevertheless probably at

fault, and if the glands are still removable the case ought to be treated as mammary carcinoma.

A bloody discharge without any lump is not by itself sufficient evidence on which to base a diagnosis of cancer. In young women it may be let alone; after 35 a local removal is probably safer.

Nipple retraction without a palpable lump is only of importance if it is recent. In that case it is wiser to regard it as evidence of scirrhus, and to operate. If it has been present for years it may be neglected.

We must frankly recognise the fact, therefore, that doubt will fairly often arise as to the innocency or malignancy of a breast case. Under these circumstances, the old rule should guide us, "that any lump in the breast of a woman over 35 is better out than in." Even if it should prove to be innocent, the patient's mind will be relieved; the future development of carcinoma, which in an abnormal breast is a very real danger, will be prevented, and the operation necessary will be a small and safe one.

Every surgeon who is doubtful as to the nature of the swelling, will, of course, cut across it before he proceeds to remove the breast, and in nine cases out of ten the diagnosis becomes quite apparent to the experienced eye. But occasionally it is very difficult to be sure even then. I used, therefore, to have an immediate section cut and reported on, so that one could act at once on the information received. Unfortunately, on more than one occasion the immediate report has been contradicted by the deliberate pathological investigation. It seems better on the whole to act on the naked-eye verdict, and if one is not pretty sure the swelling is innocent to do the complete operation as for cancer. An experienced surgeon need very seldom find that he has done too much if he works on this rule. Anyhow, even that is better than having to operate again a few days later, especially

in view of the likelihood that the exploration will have led to the dissemination of more cancer cells, and added to the risks of recurrence.

Prophylaxis.—We fear we cannot offer anything better under this heading than to advise women to reduce their risks of getting cancer of the breast by marrying, bearing children, and suckling them for the full period, using both breasts. No doubt this advice is desperately old-fashioned.

Much, however, could be done to reduce the mortality from this disease if the proemial breast was better treated. All such breasts should be carefully watched, and if a definite lump appears, not the lump only but the whole breast tissue should be removed, leaving the skin, pectoral muscles, axillary structures, and probably (for sentimental reasons) the nipple. I have had to treat three patients for scirrhus who had had lumps previously taken out from that breast, but the whole gland not removed. Recently a woman consulted me who had gone incessantly to one doctor after another for so-called interstitial mastitis, always fearing scirrhus, always told over a period of eight years that she need not have anything done, but now there is an advanced cancer.

After one breast has been removed for carcinoma, if the other shows any tendency to develop lumps the whole gland should be removed. In my series, the second breast was affected in three cases. According to Bloodgood,[1] quoting Kilgore, a woman who has had one breast removed stands a 10 per cent. chance of getting cancer in the other, as against a normal woman's 1 to 2 per cent. chance.

Treatment and Prognosis.—We shall not stay to discuss details of the operation for cancer of the breast. The procedure is now reduced to a standard. Nor is it worth while tabling a list of the contra-indications to operative treatment, except to say that it is occasionally justifiable to

remove the breast, leaving the axilla, even in an advanced case, to save the patient from a local nuisance from pain and foul discharge. Such cases must, however, be picked with discrimination. Of course, they spoil statistics, but that is of small importance.

Operation mortality.—Although the modern operation for this complaint looks very formidable, and there is often some shock, the number of cases who die in hospital or in the nursing-home is not large. The figure is usually given as 2 per cent. In my records, out of 106 patients operated on one died; this was on the seventh day, in a very advanced case, in poor general health.

End-results.—The published end-results, in unpicked subjects, show a three or five-year "cure" in from 30 to 50 per cent. of the cases operated on.

I have been able to obtain the after-history of 50 out of 56 cases operated on before the end of 1920. Six were lost sight of. Of these 50, 25 are alive and free from recurrence, and 25 are recurred or dead. Of course, three years' immunity does not constitute a cure. One of my patients recurred in the fourth year, and another in the fifth. I saw two or three years ago a woman with a secondary carcinoma in the femur whose breast had been amputated by Mr. Greig Smith; the exact year was unknown, but he died in 1897. No period furnishes an absolute guarantee of safety. But after three years the recurrences are few, and in any case the patient has had good value for the expense and trouble of being operated on if she has three years of freedom from symptoms.

In my series there are:—

5 patients alive and well over eight years.

5 others alive and well over five years.

But it is not fair to the operation to regard it as only saving half the patients in this series. In three cases the

breast was only removed for the purpose of getting rid of a distressful local condition, and growth was knowingly left behind. Other cases were very advanced or ultra-malignant.

Some idea can be obtained before operation of the probable risks of recurrence. If the growth has advanced rapidly, and is not very hard, the outlook is grave. The prognosis is much better when no glands can be felt in the axilla. If supra-clavicular glands are felt enlarged, it is doubtful if it is worth while to do anything.

In my series :—

	No. of cases over three years.	Alive and well over three years.	Dead or recurred.
All cases	50	25	25
No glands	21	13 (=62%)	8
Glands	26	12	14

Most of my patients have had a course of X-ray treatment after the operation, but I am unable to adduce conclusive evidence that it makes any difference. Certainly when an obvious recurrence has appeared X-rays do not usually appear to influence it.

Little can be said to guide the practitioner as to how long a patient with carcinoma of the breast, unoperated or recurred, will be likely to live. The observed rate of growth is the principal factor in arriving at a prognosis. The average duration of life from the first appearance is from two to three years, but wide variations are seen from this normal. Atrophic scirrhus in an old woman may last twenty years. On the other hand, in young women, and especially during pregnancy, the growth may go ahead with the most frightful rapidity. Sampson Handley[5] makes the useful observation that when there are signs of involvement of the lung the patients seldom live three months, and never six.

Encephaloid Carcinoma.—This condition is interesting, both from the point of view of diagnosis and treatment. It is an ultra-acute form of the disease, and generally the patients are dead in three months. Fortunately, it is not very common.

A doctor who has never seen a case may be congratulated on his astuteness if he makes a correct diagnosis. The whole breast is red, swollen, slightly œdematous, and shows the pitted condition called pig-skin or *peau d'orange*, especially near the nipple. On palpation the breast is not particularly hard. No defined lumps can be felt in it. Axillary glands enlarge at an early date. The unwary will probably make a diagnosis of subacute or acute mastitis, and if there is a little rise of temperature, which may be the case, will probably want to incise it. There is no form of subacute mastitis, however, in which the whole breast is so uniformly involved without any definite and localised abscess-formation.

Three patients with this condition have come under my care. I operated on the first, following the usual technique. It recurred before she left the nursing home, and she was dead in two months.

The next case was several years afterwards. Deterred by the former experience, I advised against operation, and very half-heartedly suggested X-ray treatment. To our astonishment, the benefit was extraordinary. The breast shrunk almost to normal proportions, and the red, angry appearance vanished. We almost dared to hope it might be arrested. But, alas! after many months it became active again; this time X-rays seemed to have no power over it, and she died twelve months after the original consultation.

The third case was seen by all the Infirmary surgeons, who concurred in the diagnosis, and gave a very bad

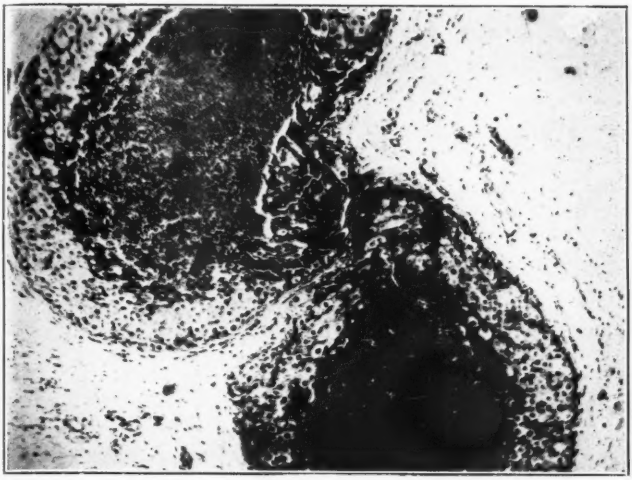

FIGURE 5.

Section of encephaloid cancer of breast after X-ray therapy. Many necrotic cells, some unaffected.

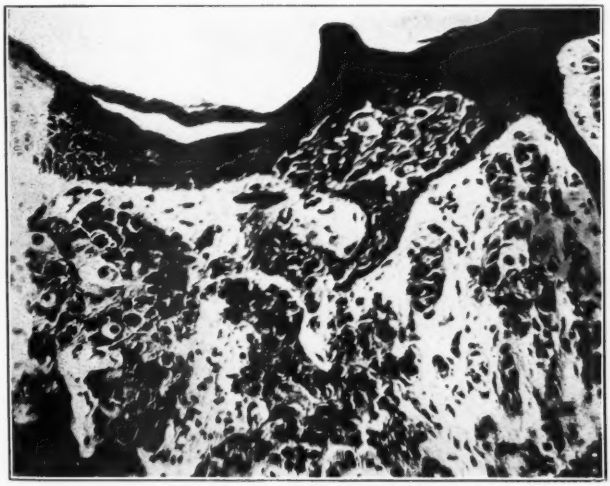

FIGURE 6.

Section from same breast showing many cancer cells beneath the skin, unaffected by the radiation.

prognosis. She was treated by vigorous X-ray therapy, and the growth responded wonderfully. The breast became much smaller and looked less inflamed. Happily, there were no palpable axillary glands. Taking warning by the preceding case, I removed the breast by the usual technique for cancer. The histological appearances made me very glad I had done so. Although the sections showed masses of dead and degenerating cancer cells, there were others very much alive, including some, strange to say, just beneath the skin. The operation was on January 23rd, 1923. To-day, February 23rd, 1924, she is alive, and as far as she knows free from recurrence; that is, eighteen months after the appearance of the first symptoms. This long survival in a case of proved encephaloid carcinoma must be very rare, if not unique.

Summary.—1. Like all forms of cancer, this condition in the female breast is increasing. Of women over 35, 7·5 per cent. will get cancer, and in 1.5 per cent. it will affect the breast.

2. Usually the growth arises in the ducts, and follows the condition of hyperplasia called the "proemial breast."

3. It is much commoner in women who have not suckled than in women who have. In Japan it is quite uncommon. Heredity has no influence.

4. The diagnosis depends principally on evidence of contracting fibrous tissue within a lump in the breast, but is often in doubt. Some special cases are considered.

5. Prevention is best served by advising women to marry, bear children, and suckle them properly. If definite lumps appear in the breast the whole breast tissue should be removed subcutaneously.

6. In the series recorded one patient died out of 106 operated on. Of 50 cases followed for three years or more, 25 are alive and well. Of favourable cases 62 per cent. are

alive and well. Five patients are alive and well over eight years.

7. In cases of encephaloid carcinoma the best line of treatment appears to be to X-ray first and remove the breast after. One such case is alive and well eighteen months after being first seen (now twenty months).

Figures 1, 2, 3, 4 are from a very early cancer of breast preceded by the condition called " proemial breast."

I am indebted to Dr. A. D. Fraser for the sections, and to Mr. Bolton of the Physiological Department for the photographs.

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[1] Hoffman, *The Mortality from Cancer throughout the World.*

[2] Cheatle, *Brit. J. Surg.* 1921, ix. 235; *Brit. M. J.*, 1922, i. 869.

[3] Ewing, *Neoplastic Diseases*, 1919.

[4] Bloodgood, " The Diagnosis of Early Breast Tumours," *J. Am.M. Ass.*, 1923, lxxxi. 875–882.

[5] Sampson Handley, article " Breast Cancer," Rendle Short's *Index of Prognosis.*

[6] Keynes, *Brit. J. Surg.* 1923, xi. 89.

DISCUSSION.

Mr. CARWARDINE said that he felt himself that the prime cause of carcinoma must be sought in the nucleus of the cell. He pointed out the importance of the penetration of the basement membrane; this membrane perhaps normally acted as a protection from invasion by epithelial cells. He spoke of the importance of the cystic breast. The cause of carcinoma did not lie wholly in the ducts; for instance, a case of adenoma with early carcinomatous change. He thought the irritation of stays might be an ætiological factor.

Mr. FIRTH doubted the value of leaving the nipple when removing the breast for mastitis. He mentioned a case in

which a very small cancer was found, and suggested the use of X-rays for chronic interstitial mastitis.

Mr. ADAMS thought that dimpling of the skin (on attempting to push or pinch it up) over a tumour was not absolutely diagnostic of carcinoma; it occurred to a certain extent in a normal breast.

In reply, Mr. SHORT said that he did not profess that every case of carcinoma began in the ducts, but it was the commonest site. Definite dimpling he regarded as pathognomonic of cancer. Although corsets might be a factor in the ætiology, he thought they were not important; the upper outer quadrant of the breast was much the commonest site for cancer.

GRAVE CARDIAC SYMPTOMS DUE TO MULTIPLE DENTAL ABSCESS.[1]

BY

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Hon. Consulting Dental Surgeon, Bristol Royal Infirmary.

FORTY years ago, when I was at the Hospital, there was very little talk of oral sepsis or pyorrhœa, and all the teaching was directed to the saving of teeth at all costs. Consequently, owing to the fixity of these early impressions, I find myself approaching all those cases attributed to oral sepsis with an instinct of suspicion and possibly of doubt. But the cases that have happened in my own practice, together with the work of such men as Dr. William Hunter and Sir William Willcocks, have made me feel that I have leaned possibly too much to saving teeth. All the same, I am convinced that a great deal too much has been done in the other direction.

[1] Read at a Meeting of the Bristol Medico-Chirurgical Society, February 13th, 1924.

I am bringing to your notice to-night a case which I am bound to say has convinced me, so to speak, against my will, that the condition of the teeth was the cause of the heart symptoms. The patient is himself a doctor, and is here to-night to bear out my statement of his case.

His age is 42, had never previously suffered from cardiac symptoms. On April 23rd, 1923, he had acute coryza with mild laryngitis, diagnosed as influenza, and was in bed for two weeks. During this illness he had occasional precordial pain and sensations of fluttering. He attributed these symptoms to two toxins—influenza and nicotine, and ceased smoking. In spite of this, the cardiac symptoms persisted during the next two months, and increased in severity. He was easily tired, and had mild dyspnœa after slight exertion. On June 9th, 1923, he consulted a colleague, who diagnosed post-influenzal myocarditis. At 10 p.m. on June 15th he had a severe rigor, but the temperature remained normal. The next morning he had pains in both knee-joints and in the left wrist. At 11 p.m. on June 16th he had severe cramp of the recti abdominales muscles, followed bysweating. When he awoke on the morning of June 17th there was considerable cardiac distress—pain, irregularity, and sensations of impending dissolution. The patient was seen by Dr. Farrer Thompson, of Woburn, who found the pulse rate 60, irregularly intermittent. The area of cardiac dullness was not increased, but the first sound was very faint, and the second was accentuated and reduplicated. Extra-systoles were present, and the systolic blood pressure had fallen to 100 m.m. Hg. The tongue was thickly coated, and the patient was perspiring. Dr. Farrer Thompson diagnosed toxic myocarditis, and advised the patient that pus was probably present, as the previous influenza could not account for the present toxic condition. He advised that the teeth should be X-rayed in the first place. If no

sepsis were found, the accessory sinuses should be carefully examined. The teeth were X-rayed, with the following result: Four dead teeth were discovered, with three chronic abscesses and a certain amount of pyorrhœa alveolaris.

After the first extractions the cardiac symptoms began to disappear, and the patient decided to make a "clean sweep," so we gradually extracted the whole of his teeth during July and August, and ultimately fitted dentures.

The cardiac symptoms have entirely gone, and the general health is better than it has been for five or six years.

DISCUSSION.

Dr. X. (the patient) said that he wished to add something to the account given by Mr. Ackland. He had for over two years suffered chronic ill-health; quite two years ago he had had a severe "rheumatic" attack with rigor, precordial pain, joint pains, and sour sweat, followed by hæmaturia and swelling of the ankles. He emphasised the importance of making a definite diagnosis in cases of disordered cardiac action.

Dr. P. WATSON-WILLIAMS urged the importance of considering all possible sources of sepsis—teeth, tonsils, bowels, accessory nasal sinuses or others. Often the foci of infection that were least conspicuous as sources of visible pus were the most dangerous to the patient. In such cases a difficulty in mental concentration was frequently an early and important sign.

Dr. HERAPATH questioned the diagnosis of myocarditis. There appeared to be no tachycardia, and no dilatation of the heart in the case, which did not fit in with that diagnosis. Disordered action of the heart was now thought by many to be due to influence of the nervous system on the heart, especially probable if fear were present. Often there was no illness preceding the disordered cardiac action.

Dr. CAREY COOMBS said that he had investigated the importance of dental sepsis. There appeared no evidence in his series of cases that naked-eye dental sepsis commonly affects the heart.

Dr. X. in reply said that his cardiac condition appeared not to have been made quite clear. His pulse was 130, irregular, and with extra systoles; the apex beat, however, was not displaced. He had not observed any condition of fear before or since the onset of his trouble. He had, however, noticed that mental concentration was increasingly difficult. He gave an amusing description of spa therapy, especially with "radium" water. In conclusion, he wished to thank Mr. Ackland for the remarkable success of his treatment, and to emphasise the value of skiagraphy in assisting the diagnosis.

Reviews of Books.

Oral Hygiene. By J. SIM WALLACE, D.Sc., M.D., L.D.S. Pp. vii., 76. London: Baillière, Tindall & Cox. 1923. Price 5s. net.—The subject of Oral Hygiene has been receiving the close attention of many observers for some years past. In this little book the author has placed before his readers his own personal conclusions in a manner admitting of no argument. Many of his views are diametrically opposed to those appertaining at the present time. The physiology of the mouth has never been treated at all fully in the standard text books. Dr. Wallace expounds his views at some length, they will certainly justify their appearance in print if they succeed in focussing attention more closely on this subject, and make the student think for himself. The chapter on "Food and Teeth" contains much interesting matter. With regard to dental caries, the author lays great stress on the fact that the factors governing its production are external to the teeth themselves, and that the calcium content in the tooth structure has nothing whatever to do with the subject. This chapter should call for much discussion and perhaps

criticism. Any literature on this fascinating and somewhat obscure subject of oral hygiene is bound to be of interest. This little book is a welcome addition, inasmuch as it calls for careful perusal, and brings forward a number of points that are bound to create a discussion.

Golden Rules of Dental Mechanics. By HAROLD OSBORN. Second Edition. Pp. 107. Bristol: John Wright and Sons, Ltd. Price 5s. net.—This little book contains a full and fascinating description of the various processes involved in the Dental Laboratory. It is, of course, well recognised that in order to have a sound practical knowledge of Dental Mechanics the student must apply himself diligently to his practical work in the Dental Workroom. A little volume of this description, with its concise and short account of how to proceed, is a welcome addition to the library of small books in note form, and may well prove of great assistance for reference purposes

Modern Methods in the Diagnosis and Treatment of Heart Disease. By FRANCIS HEATHERLEY, M.B., B.S. (Lond.), F.R.C.S. Pp. xi., 199. London: Baillière, Tindall and Cox. 1923. Price 5s.—This little book presents the fundamental facts of modern cardiology, now familiar to most teaching physicians, in a form that is designed to make them easily assimilable by men in general practice. The writer, himself a general practitioner, has been brought into contact with the new ideas about cardiac disease through work done on behalf of the Ministry of Pensions. He has fallen in love with the work, and his book is an enthusiastic exposition of its principles and practice. It closes with a plea that we shall all warmly endorse ; to the effect that men in general practice should be less diffident about publishing their observations on disease. We sincerely trust this seed may find good ground somewhere.

Asthma. By FRANK COKE, F.R.C.S. Pp. viii., 260. Bristol: John Wright & Sons Ltd. 1923. Price 15s. net.—In no other disease have our conceptions of causation undergone such a revolution as in asthma during the last decade. Mr. Coke remarks that before anything was known about sensitisation to foreign proteins asthma had been attributed to the proximity of horses or cats, with the result that such an explanation was generally ignored as fallacious or fanciful. He recalls to our notice a remarkable book by Hyde Salter, published in 1868, which anticipates our latest work on sensitisation to animal hairs and describes the dermal reaction. Nowadays protein sensitisation is the first explanation looked

for in a case of asthma. The third chapter of this book is devoted to the subject, and describes it simply and clearly, together with the technique for applying dermal tests. Treatment occupies a large part of the volume, and is such as will prove most helpful to the practitioner. The difficult problems of specific protein therapy and desensitisation are recognised fairly and dealt with reasonably. In spite of the comparative novelty of Mr. Coke's studies, he is not carried away by theories, nor is he a mere enthusiast for the *aliquid novi*. He has written a lucid, accurate book based on facts, and illustrated by careful clinical observation and experience. We have to abandon much in older theories and remedies for asthma, and Coke's book on asthma is a valuable guide to newer and more rational methods.

Chronologia Medica. By SIR D'ARCY POWER, K.B.E., M.B., and C. J. S. THOMPSON, O.B.E. Pp. iv., 278. London: John Bale, Sons, & Danielsson Ltd. 1923. Price 10s. 6d. net.—This is an interesting hand-list of the chief persons, periods and events in the history of medicine. The information it gives is very brief, and it will serve chiefly as a reminder of dates. But, as the authors say in their Foreword, the addition of a fact or two concerning each epoch, event, or person gives to the chronology a semblance of vitality. Medical editors in particular may be glad of such a reference book on their desks.

"Magistri Salernitani nondum Cogniti." A contribution to the history of the Medical School of Salerno. By DOCTOR PIETRO CAPPARONI, with a Foreword by SIR D'ARCY POWER, K.B.E., M.B. (Oxon.), F.R.C.S. Pp. v., 68. London: John Bale, Sons & Danielsson Ltd. 1923. Price 15s. net.—This is the second volume of Research Studies which we owe to the Wellcome Historical Museum, and is of remarkable interest and value. Dr. P. Capparoni, when on military duty at Salerno during the war, met with a manuscript containing a list of 13,000 names of members of certain guilds in the cathedral archives. The first entries were made in the eleventh century, but they include names from still earlier times. From these he collected the names, dates and titles of a number of medical men previously unknown, who taught and practised in the school of Salernum, and also details about others who are mentioned by De Renzi, Henschel and Daremberg, the historians of the school. He has also given us an admirable sketch of the annals of the school and of medical education during its existence. In his view the revival of the medical art about the beginning of the ninth century took place almost entirely in the monastic and episcopal schools. Salernum was one of

the last towns to retain its independence and Roman institutions. It contained many Benedictine houses, with their libraries and infirmaries. It was on the direct route to the Byzantine world, and Greek was still spoken in the neighbourhood. Hence the early renaissance of classical medicine here. The earliest doctors were nearly all ecclesiastics, but the interference with their work became so great that in the twelfth century council after council forbade their leaving their duties to study law and medicine. New universities and guilds of lay doctors then appeared to take their place at Salernum and elsewhere and the school continued to flourish till 1250, when it was overshadowed by the University af Naples. It is interesting to note the fine hospitals and the public baths in the town, and that the proper name of the celebrated woman doctor or midwife was Trocta. Trotula was, in fact, the name of her book, as Rogerina was that of the surgical work of Roger. Twenty-seven beautiful photographic plates add to the attractions of this scholarly volume, which is a mine of information about the earliest renaissance of medicine.

Diseases of the Rectum and Colon. By C. LOCKHART-MUMMERY, F.R.C.S. Pp. x., 872. London: Baillière, Tindall & Cox. 1923. Price 25s. net.—Dealing with the closely-associated diseases of the rectum and colon, this book emphasises the importance of the sigmoidoscope in their diagnosis, its value in accurate localisation and differentiation of disease in these organs being comparable with that of the cystoscope, which revolutionised the differential diagnosis of urinary diseases. The importance of realising that rectal operations can be rendered relatively aseptic by suitable preparation should encourage efforts in this direction, and eliminate some of the ills resulting from despair of attaining surgical cleanliness in rectal work. While it cannot be regarded as an exhaustive treatise on the subject, diverticulitis is fully dealt with and illustrated by clinical histories and operations and post-mortem findings. The book will be found of value to the surgeon with occasional opportunities only of gaining experience in these subjects, and to the general practitioner from the point of view of diagnosis.

Diseases of the Male Organs of Generation. By KENNETH M. WALKER, M.A., F.R.C.S., M.B., B.C. Pp. xii., 234. London: Oxford Medical Publications. 1923. Price 12s. 6d. net.—The practitioner and student will find this a useful book, for though not exhaustive, most subjects are adequately dealt with, and some, such as prostatic enlargement, fairly fully. For instance, the author discusses the question whether, as in his opinion, the enlargement is due to fibro-epithelial degenerative

changes associated with the end of sexual life and fully comparable with the changes in the female breast which occurs at that time, or, as is usually held, an adenomatous growth. He emphasises the importance of the two-stage operation in prostatectomy and the inadvisability of making the Thompson Walker exposure a routine procedure, with both of which opinions one is in full agreement. The more modern outlook in acute prostatitis and vesiculitis is touched on; the work on internal secretion of the testicles is considered and Steinach's rejuvenation experiments and Voronoff's work on testicular grafts. Venereal disease is deliberately omitted, and pathology also, except where it has a definite bearing on treatment, which is made a particular feature of the book for the benefit of the student and practitioner. It is well worth reading, for it gives evidence of original thought and research.

An Introduction to Surgical Urology. By W. K. IRWIN, M.D. (Aberd.), F.R.C.S. (Edin.). Pp. vii., 180. London: Baillière, Tindall & Cox. 1923. Price 7s. 6d. net.—This book, as its title implies, will be found of value to those with little experience of genito urinary surgery. To the practitioner and student it introduces the subject from the consulting-room point of view. Commencing with a brief anatomical description of the organs involved, it passes to the methods of inquiry into and examination of the diseases of the urinary tract. The investigations necessary to the elucidation of its prominent signs and symptoms, to each of which a chapter is devoted, then follows, and, finally, enlargement of the prostate is more fully dealt with.

Incompatibility in Prescriptions and how to Avoid it. By THOS. STEPHENSON, D.Sc. Edinburgh: The Prescriber Offices. 1924. 1s. 6d. net.—Dr. Stephenson quite correctly states in his Introduction that the time devoted by medical students to chemistry and pharmacy in their curriculum is short; we consider that it is lamentably short! The result of this is that when later on they attempt to write prescriptions for their patients they frequently find themselves hopelessly involved in their efforts to avoid the various types of incompatibility which are met with in pharmacy. This little monograph will be very useful to such students, and will enable them to avoid mistakes which would not add to their reputation. Dr. Stephenson deals briefly and concisely with the subject, and his wide experience has enabled him to select examples for discussion which are met with in actual practice. The fact that several reprints of the work have been necessary speaks for its utility, and we have every confidence in recommending it to students and junior practitioners of medicine.

Editorial Notes.

Deaths of Dr. A. J. Harrison and Mr. R. G. Poole Lansdown.

In this issue we have to record simultaneously the death of two distinguished past Presidents of the Society, Dr. A. J. Harrison and Mr. R. G. Poole Lansdown, of whom portraits and appreciation of their work are included.

Dr. Harrison masked his well advanced years by his remarkable mental and physical activity up to the day of his accident while running to catch a bus. There was much to record, but we observe no mention made of the very active part he took in the foundation of the Gloucester, Somerset and Wilts branch of the National Society for Prevention of Tuberculosis, which was initiated in 1899, and in the building of the Winsley Sanatorium which was the outcome of this three counties branch.

Mr. R. G. Poole Lansdown was a very successful consulting surgeon, but perhaps the most permanent record of his manifold professional and other activities lies in the reconstruction and development of the Chesterfield Nursing Home, a scheme which is the work of many but mainly due to Mr. Lansdown and the Hon. Treasurer, Mr. Hedley Hill. We are glad that Mr. Lansdown lived to see this complete and handsome block of buildings opened last summer, and to continue planning for its further development up to the day of his sudden death — at a time when he was in full activity and his surgical skill unimpaired. When the plans are fully developed and

complete the Medical Profession in Bristol should find in it all the resources of a thoroughly well-equipped paying hospital, and Lansdown's share in bringing about this happy consummation should ever be remembered.

MEETINGS OF SOCIETIES.

Bristol Medico-Chirurgical Society.

February 13th, 1924.

MR. ACKLAND read a paper on **"Toxic Myocarditis due to Dental Caries,"** and showed the patient, a medical man, who took part in the discussion (*vide* pp. 79 to 82).

MR. A. R. SHORT read a paper on **"Carcinoma of the Breast"** (*vide* pp. 64 to 79).

MR. CLAREMONT demonstrated a portable electric lamp for fixing to the patient's head to illuminate the mouth for dental work, and suggested that it might be useful in other operations in the mouth and in the ear.

March 12th, 1924.

Cases were shown as suitable for treatment by Radium by MR. HEY GROVES, DR. PATRICK WATSON-WILLIAMS and MR. DUNCAN WOOD.

MR. A. E. HAYWARD PINCH, F.R.C.S., gave an address on **"Radium Therapy,"** with lantern illustrations.

Mr. Hayward Pinch's address and brief notes of the cases shown, as well as the discussion following, will appear in the July issue of the *Journal*.

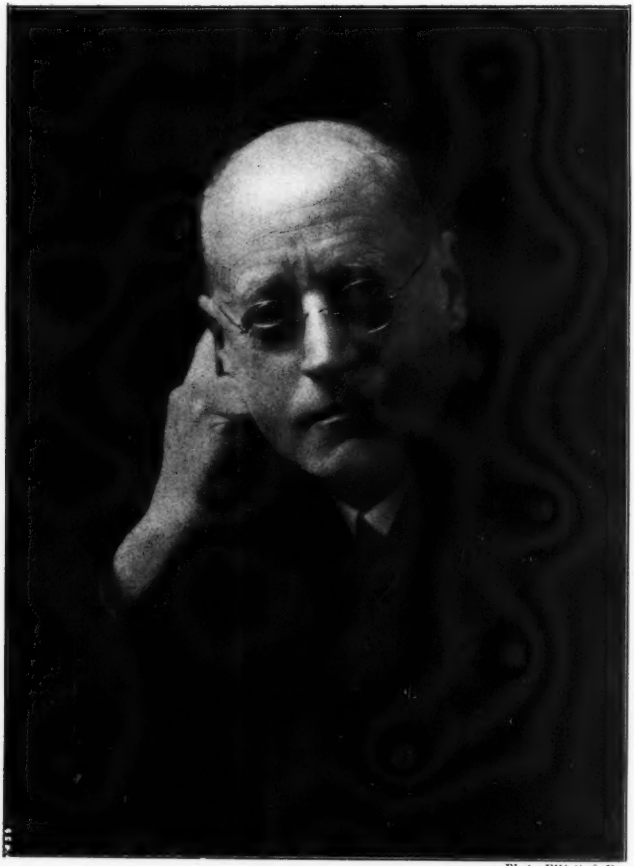

Photo Elliott & Fry

Robert Poole Lansdowne

Obituary.

R. G. POOLE LANSDOWN, M.D., B.S.

It is with deep regret that we have to record the death, on Feb. 17th, at the age of 60, of Mr. Robert Guthrie Poole Lansdown, Consulting Surgeon to the Bristol General Hospital.

He was for a very short time at Epsom College, whence he came to Clifton College in the days of Percival. For a few terms he studied at University College, Bristol, but he was essentially a Guy's Hospital man, and for his Hospital he always retained a loyal affection, and as far as a provincial surgeon can he kept in touch with the staff. His father before him and his own son were also Guy's men, and his son, Dr. R. B. P. Lansdown, has held resident appointments there.

As a student Lansdown had the advantage of boarding with Mr. Jacobson, then an Assistant Surgeon, who coached him for his examinations. Jacobson inspired his pupil with his own enthusiasms, and many were the stories which Lansdown had to tell of this great teacher's acumen and quaint humour.

Graduating in the Durham University M.B. and B.S. in 1889, he also took the Conjoined Diplomas, and in 1891 the Durham M.D.

After holding the appointment of House Surgeon at Guy's he had to return to Bristol to assist in his father's practice. At first he was appointed Anæsthetist to the Bristol General Hospital, where his father and grandfather had been members of the honorary staff.

Chloroform in his hands seemed a safe anæsthetic, and he preferred it for abdominal operations, although he always left the choice of anæsthetic to the administrator. Until quite recent years it was not uncommon to see Lansdown giving the anæsthetic whilst he supervised an operation performed by his House Surgeon. For some years after his appointment as

Assistant Surgeon he continued to assist his father in general practice. This led to his appointment as Medical Officer to the Post Office Staff, and in such high esteem and affection was he held that the older postmen sent a wreath for his funeral, although it must have been nearly twenty years since he resigned.

He was almost the last to combine general practice with the appointment of Hon. Surgeon to the General Hospital, but after a while confined himself to pure consulting surgery, a course that was almost immediately justified. He was quite aware of the value these years of general practice had been to him in his later work, although he often regretted that he had been unable to specialise before.

Lansdown was Lecturer in Practical Surgery in the Bristol University, and was one of the most useful members of the Medical Board, of which for some time he was Chairman. He was also Consulting Surgeon, Clifton Dispensary, and to the Homœopathic Hospital.

During the war he was a Major in the R.A.M.C. (T.), and attached to the Second Southern General Hospital, Bristol, and did much to assist the good-fellowship between the staffs of the Royal Infirmary and the General Hospital. He was given the rank of Lieut.-Colonel just before the end of the war.

As a Surgeon he combined a rare and ripe judgment with a fine technique and skill in operating. To the last he never allowed himself to get into a groove, but was quick to adopt the real advances in his subject. He was among the first to adopt in its entirety the modern methods of aseptic surgery, installing a steam-sterilizer in his own house.

Perhaps the most important of his contributions to the journals on surgery was one which he wrote in conjunction with Dr. G. Scott Williamson on the "Etiology of Appendicitis, Gastric Ulcer and Allied Conditions," in which the primary lesions in these cases were described as being in the lymphoid tissue in the wall of the alimentary canal.

In his work Lansdown had two outstanding characteristics, his warm and understanding humanity towards his patients and his strict and rigid attention to the smallest details.

Brought up in a very strict school of surgery, he held on

to the best in the old technique, even to the orthodox method of holding the scalpel and the correctness and beauty of his bandaging. In the councils of his colleagues he held the highest place, and when there was any doubt as to the right thing to do in any difficulty Lansdown was the first to be appealed to.

He was wholely unselfish, warm-hearted, shrewd and absolutely straightforward, and the knowledge that Lansdown never descended to devious diplomacy contributed much to the weight that his opinion carried.

He had been President of the Bristol Medico-Chirurgical Society and President of the Bath and Bristol Branch of the British Medical Association.

For a particularly plucky rescue of a lady from drowning he was awarded the Bronze Medal of the Royal Humane Society.

He had numerous interests outside his profession. He was a very keen motorist, and was looking forward at the time of his death to the delivery of a Lanchester car for which he had been waiting for some time. When it was possible he went abroad for his holidays since his first visit to the Black Forest in 1906. Switzerland was his favourite holiday resort, where he did a good deal of climbing, but he had also spent some time in Italy and the south of France at various times. An excellent photographer with a perfect technique, he had been President of the Bristol and West of England Photographic Society.

There are many who will remember his art as an amateur actor when he took part in the "Medical Dramatics." Amongst his conspicuous successes were the rôles of the title-part in *The Magistrate*, "Pete" in *The Professor's Love Story*, and, where perhaps he was seen at his best, as the "Dean" in *Dandy Dick*.

His dramatic instinct showed itself even when he was repeating an ordinary conversation, for he caught with amazing skill the tone of voice, the peculiarities of speech, and the mannerisms of the person whom he was quoting. It is not so generally known that, although he was not a good public speaker, he was an exceptionally fine reader. He once

coached two boys for the Reading Prize at Clifton College. One secured the prize, and in another year the other came second. He was once handed a passage to read from the *Ring and the Book*. Lansdown read it aloud, and continued page after page until he came to the end of the section. It was by no means an easy sample, and he had never seen it before, but not once did he stumble, or so much as trip in bringing out the sense so as to necessitate the re-reading of a single line. It was no mean feat to accomplish.

When he reached the age of sixty he resigned his appointments at the University and from the Bristol General Hospital which he loved so well and so loyally and devotedly had served. He decided to give up his practice in March this year and was taking up new interests to occupy his unaccustomed leisure, when the end came with appalling suddenness from syncope. Yet it was, for himself, the end he desired.

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Photo Bromhead.

R. J. Harrison

ALFRED JAMES HARRISON, M.B. Lond.

It is granted to very few men to enjoy full activity and vigour for the long span of eighty-eight years, and to carry on their interests to the last with hardly any physical disabilities, yet this was the happy lot of our old colleague, Dr. Harrison. With the figure and gait of a man forty years younger, he carried on his usual pursuits and his daily walk of five miles almost up to the time of his death.

He was born in 1836, and was the son of Thomas Lichfield Harrison, of Belper. He became a medical student at Birmingham and in Guy's Hospital. Having taken the M.R.C.S. in 1858, the time of the Indian Mutiny, by the way, he was still too young to begin practice, and went for a voyage round the world on the clipper (sailing) ship *Percy*. In 1860, he was appointed Medical Officer to the Carey Street Dispensary, London, but went before long to the Rotunda in Dublin to study gynæcology, and took the London University M.B. in 1861. Then for a time he worked in Birmingham, where he was elected a Physician to the Children's Hospital and Lecturer on Materia Medica at the Sydney College, an institution soon after amalgamated with Queen's College.

In 1864 he took up private practice in Walsall, where he remained twelve years. He was on the staff of the Cottage Hospital there at the time when the celebrated Sister Dora had to do with the nursing arrangements. He appears to have taken an active part in public matters and was placed on the local bench of Magistrates. In 1865 he married Selina, the daughter of George Bradnock Stubbs, of Walsall, by whom he had ten children. At length, in 1877, he gave up his Staffordshire practice and retired to live at Failand Lodge, Clifton, but his usual love of work led him to seek election on the staff of the General Hospital, and he was appointed in November, 1879, to the somewhat arduous post of Assistant Physician. He then set himself to specialise in Dermatology, and by degrees he developed an important skin department at that Hospital, upon which he expended infinite care and

skill, retaining the charge of it till 1904. Among other researches at this time he gave much attention to Tinea Tonsurans and Lupus, writing valuable papers on the former in 1885 and 1889 and on the latter in 1892. He devised a method by which a parasiticide drug could be carried to the deeper layers of the skin where the organism is buried, and in this he attained considerable success. His method has still many supporters. When Finsen brought out his Light treatment for skin diseases Dr. Harrison undertook a journey to Copenhagen and studied the new process in Finsen's clinic before carrying it out at home. In 1894 he was President of the Dermatological section of the British Medical Annual Meeting when Unna and other leading Dermatologists came to Bristol.

He had been appointed Lecturer on Toxicology in the Bristol University College in 1881, and carried this on for eighteen years. One of his chief recreations was found in the care of the Zoological Gardens, in which he took active part, and when elected President of the Medico-Chirurgical Society he charmed his hearers by an unexpected address on Comparative Pathology as illustrated by the clinical histories of his animal patients in the Gardens.

In 1899 he had the grief of losing his wife, and later on, as his family had become somewhat scattered, he undertook a voyage to New Zealand to visit his son who was in practice there. When the Great War broke out in 1914 he had given up most of his appointments, and was 78 years of age, but he determined to do his share. He took on once more the Skin Department at the Hospital and other forms of work to set free younger men, and finally went as a resident medical officer at a Mental Asylum in the district, a marvellous amount of toil for a man of his years.

In these notes we have only been able to refer to a few of his interests and labours, but his colleagues will always retain a warm memory of his genial manner and his devotion to his duties. He died on February 25th after a short illness. His remains were cremated at Woking after a service in St. Paul's Church, which he had attended for nearly fifty years.

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Local Medical Notes.

UNIVERSITY OF BRISTOL.—Students of the University have recently passed the following examinations:—

M.B., Ch.B.—(First Class Honours): J. A. James. (Second Class Honours): A. P. Bodman, H. Taylor. *Pass:* N. J. Bown, G. B. Bush, W. L. Cossham, F. R. Edbrooke, N. J. England, H. M. Golding, R. C. Hatcher, A. G. Heron, F. G. Jenkins, M. V. Joscelyne, P. C. Joscelyne, E. C. K. Kenderdine, E. F. King, C. H. Osmond, R. A. Sammons, R. E. Whitby, C. F. Wilson. *Final Examination, Part I.:* A. F. Alford, K. F. Alford, D. H. Beatson, E. E. Benson, H. W. Brassington, D. E. Crellin, S. J. H. Griffiths, C. I. Ham, F. H. Hollingshead,

J. A. Hooker, C. T. Hyatt, A. H. Lowther, R. E. Lucas, C. P. Porter, D. C. Prowse, L. G. Robertson, H. Rogers, J. F. Southward, G. M. Terrell, M. M. TeWater, T. W. Ware, K. M. Willmore, G. M. Minifie. *2nd Examination, Part II.:* J. C. Batt, O. J. P. Bollon, J. M. Camps-Campins, A. M. Critchley, T. F. Hewer, R. Jackson, M. Srisvasti, E. R. Wide.

D.P.H.—*Part I.:* E. G. Don.

B.D.S.—E. K. Tratman. *2nd Examination (in Dental Anatomy only):* E. C. Browne.

Diploma in Dental Surgery.—R. G. Downes, G. J. Kelly, B. F. Taylor. *2nd Examination:* S. Phillips. *In Dental Mechanics and Metallurgy:* C. S. Cossham. *1st Examination:* W. H. Greet, E. W. Mogg, C. S. Wilde, C. P. Winstone. *In Dental Anatomy only:* D. M. Cox, R. W. Pinniger. *In Anatomy only:* T. D. Lewis.

L.D.S., R.C.S. Eng.—J. W. Cooper, C. E. Downe.

The **Royal Medical Benevolent Fund** is appealing for increased support. The Fund assists, by grants and small annuities, medical men and their dependents who through ill-health or misfortune are in great poverty. During the last two years very heavy calls have been made on the resources; the help given has in many cases necessarily been less than adequate. The charity is non-contributary, and depends on the generosity of members of the profession. We commend to each one the claims of this very deserving effort to help the less fortunate brethren. Subscriptions should be sent to the Local Honorary Secretary, Mr. E. Watson-Williams, 12 Victoria Square, Clifton, Bristol; or to the Treasurer, 11 Chandos Street, London, W.1, either of whom will be pleased to give any further information.

British Medical Association Prize.—The Medical Faculty of our University is to be congratulated on the success of Miss B. Y. de la Pasture in being awarded one of the prizes offered by the British Medical Association to medical students of the United Kingdom for an essay on "Three cases illustrating the causes of Dyspnœa."